

**Central Pacific Transcontinental Railroad, Tunnel 27  
Southern Pacific Donner Pass Route Tunnels  
Milepost 133.9  
Applegate vicinity  
Placer County  
California**

**HAER No. CA-203**

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31-APGT.V,  
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**PHOTOGRAPHS**

**WRITTEN HISTORICAL AND DESCRIPTIVE DATA**

**Historic American Engineering Record  
National Park Service  
Western Region  
Department of the Interior  
San Francisco, CA 94107**

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## HISTORIC AMERICAN ENGINEERING RECORD

### CENTRAL PACIFIC TRANSCONTINENTAL RAILROAD, TUNNEL 27

HAER No. CA-203

**Location:** Southern Pacific Donner Pass Route Tunnels  
Milepost 133.9, Applegate vicinity, Placer County, California

UTM: 10-674235-4317840  
Quad: Greenwood, Calif. 7.5', 1949 (photorevised 1973)  
(west portal)

UTM: 10-674370-4318125  
Quad: Greenwood, Calif. 7.5' 1949 (photorevised 1973)  
(east portal)

**Date of Construction:** 1910.

**Engineer:** Southern Pacific Railroad Engineering Department.

**Present Owner:** Union Pacific Railroad, 1416 Dodge Street, Omaha NE 68101.

**Present Use:** Railroad Tunnel.

**Significance:** The Central Pacific First Transcontinental Railroad is a segment of the western half of the first transcontinental railroad, built from Sacramento, California to Promontory Summit, Utah between 1863 and 1869, where it joined the Union Pacific Railroad which had built west from Omaha. For the purpose of the current project, the first transcontinental railroad was found likely to be eligible for the National Register of Historic Places at the national level of significance under Criterion A for its significance in transportation history, in uniting the East and the West, and in the development of the West. The railroad's period of significance is 1869 to 1945, from the line's completion in 1869, through the years of its role in the settlement and development of the West, to the conclusion of the railroad's achievements in World War II. Tunnel 27 is a contributive element of this historic property.

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## **I. DESCRIPTION**

Tunnel 27 is an 846-foot, single track railroad tunnel, with granite ashlar portal faces and wingwalls. As-built, the tunnel was concrete-lined for the first fifty feet in from each portal, with the remainder lined in redwood timber; the railroad has subsequently covered the timbering with shotcrete. The tunnel is on a two-degree left-hand curve, and carries the tracks of the Union Pacific Railroad's (formerly Southern Pacific) Donner Pass line. In 1965 the east end of the tunnel collapsed, with the result that approximately 115 feet of the east end was "daylighted" and the original east portal and concreted end were left in place, free-standing. Tunnel 27 was recorded for this reason, because it shows to good effect the original construction of these tunnels. While the railroad continues to consider Tunnel 27 as an 846-foot structure, portal-to-portal, the actual current length subsurface is approximately 731 feet.

## **II. HISTORICAL INFORMATION**

Contractors, Utah Construction Company of Ogden built Tunnel 27 (originally numbered Tunnel 12) in 1910 as an element of the reconstruction and double-tracking of the original Central Pacific line between Rocklin and Colfax. [For a full history of this line and of this undertaking, see the documentation set for the Central Pacific Transcontinental Railroad (Southern Pacific Overland Route) (Southern Pacific Donner Pass Route), Southern Pacific Donner Pass Route Tunnels, HAER No. CA-196.] After assuming control of the Southern Pacific/Central Pacific and merging them with the Union Pacific in 1901, Edward H. Harriman had embarked on a series of huge reconstruction projects system-wide. One of these was the double-tracking of the original Central Pacific line over Donner Pass, the first segment of which was from Rocklin to Colfax. In connection with this, Harriman also moved the roundhouse and locomotive shop facilities originally built at Rocklin by the Central Pacific, to nearby Roseville where he built a much larger and more modern facility to handle the larger locomotives he was bringing onto the system.

Two contracting firms divided the work, with Utah Construction Company building the portion from Colfax west to Clipper Gap, and Erickson & Petterson handling the work from Rocklin east to Clipper Gap. All the tunnels, whether single- or double-track, conformed to Southern Pacific Common Standard plans.

Utah Construction Company built their tunnels by driving two drifts (small pilot tunnels) at the spring line of the final arch. They then drove a third drift at grade level and centered, roofing it with loose timbers. Workers then blasted the "bench", the material between the floor of the upper drifts and the ceiling of the lower drift, then removed some of the lower drift's roof timbers to drop the loose material down into dump cars for removal. At Tunnel 27, crews drove the bore through a mix of shale, limestone and serpentine, achieving progress at the rate of about 140 feet per month. Encountering no special problems, they completed the tunnel in 1910.

## **III. SOURCES**

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United States Geological Survey. Topographic map. Greenwood, Calif. quadrangle, 7.5' series, 1949 (photorevised 1973).

#### **IV. PROJECT INFORMATION**

As a result of the 1996 merger of the Union Pacific and Southern Pacific Railroads, a federal undertaking under the jurisdiction of the Surface Transportation Board of the U.S. Department of Transportation, and in order to accommodate freight trains utilizing longer and taller cars and loads--tri-level auto rack cars and cars carrying double-stacked containers, the Union Pacific will need to increase tunnel clearances on the former Southern Pacific Donner Pass Route. The tunnels, built between 1868 and 1925, are contributing elements of the National Register-eligible Southern Pacific Donner Pass Route Tunnels Historic District. All tunnels have been laser-measured and the railroad will determine clearance needs on a tunnel-by-tunnel basis. Some, because of curved alignment, will require interior work to allow for longer cars such as tri-level auto rack cars; others will require both interior and portal work to provide sufficient vertical clearance for "double-stack" container cars. The latter work may impact the character-defining tunnel portals if crown mining of the tunnels (as opposed to lowering the tunnel floors) is selected. Inasmuch as this would cause an adverse effect to the tunnels, Union Pacific has elected to record the tunnels for the Historic American Engineering Record. Tunnel 27 will not require any modification; as indicated above, it was included in the documentation because its semi-collapsed east end so well depicts the original concrete-lined construction used in all the tunnels between Rocklin and Colfax. Documentation was carried out by P.S. Preservation Services, John Snyder Field Director and Historian, and Ed Andersen, Photographer. Photos were made in August 1997, and research was carried out from August 1997 through March 1998.